



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,373	09/18/2003	John C.W. Ngan	2482	8499

28005 7590 01/03/2007
SPRINT
6391 SPRINT PARKWAY
KSOPHT0101-Z2100
OVERLAND PARK, KS 66251-2100

EXAMINER

MANOHARAN, MUTHUSWAMY GANAPATHY

ART UNIT	PAPER NUMBER
----------	--------------

2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/666,373

Applicant(s)

NGAN, JOHN C.W.

Examiner

Muthuswamy G. Manoharan

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Applicant's response dated September 9, 2006 to an Office Action June 26, 2006 is entered. Claims 1-17 are pending in this application.

Response to Arguments

2. In view of the Appeal filed on 9/29/2006, PROSECUTION IS HEREBY REOPENED. New grounds of rejections are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Mr. George Eng

Claim Rejections - 35 USC § 102

Art Unit: 2617

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1,4,11 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183).**

Regarding **claim 1**, Lencevicius discloses a method of activating call forwarding ("**call forwarding**", Paragraph [0030]) for a mobile station (item 10 in Figure 1), comprising the steps of:

monitoring a measure of received signal strength at said mobile station ("**Most mobile communication devices have some sort of power level meter or readout**", Paragraph [0024]; "**on a GSM network, the RF field strength can be used**", Paragraph [0038]);

automatically transmitting a first feature code from said mobile station to a wireless network when said monitored measure of received signal falls below a threshold level ("**once the power level drops below a predetermined threshold**", Paragraph [0024]), said first feature code activating call forwarding for said mobile station ("**relevant USSD to the network instructing call forwarding**", Paragraph [0030], "**well known in the art as admitted by the applicant**"; "**industry has many**

Art Unit: 2617

years employed a concept known as “feature codes”, from Description of related art, by the Applicant) such that incoming calls are directed to a previously programmed directory number (“call forwarding functionality on the network, which is activated**”, “**call forwarding to the voice mailbox**”; Paragraph [0030]);**

continuing to monitor signal strength at said mobile station during a period when call forwarding is activated (“**deferring of incoming communications is initiated**”, Paragraph [0020]; “**the transmission is deferred until the signal power is above the predetermined level**”, Paragraph [0038-0039])

automatically transmitting a second feature code from said mobile station to a wireless network, said second feature code deactivating said call forwarding (“**call forwarding functionality on the network, which is activated or deactivated**; Paragraph [0030]; “transmission is deferred until the signal power is above the predetermined level”, Paragraph [0038]).

Regarding **claim 4**, Lencevicius teaches the method of claim 1, wherein said mobile station comprises a cellular telephone (Figure 1, “GSM network”, Paragraph [0039]).

Claim 11 is rejected for the same reason as set forth in claim 1. Please refer to Figure 3 for further clarification.

Regarding **claim 13**, Lencevicius discloses telephony network comprising a plurality of base transceiver stations and roaming mobile stations subscribing to said network, the improvement comprising (Figure 1); providing a service control node (Figure 1, “GSM network”, Paragraph [0039]) network that activates and deactivates a

Art Unit: 2617

call forwarding service for said roaming mobile stations, wherein said call forward service is activated and deactivated by transmission of first and second feature codes ("activated or deactivated via USSD", Paragraph [0030], "well known in the art as admitted by the applicant"; "industry has many years employed a concept known as "feature codes", from Description of related art, by the Applicant) from said roaming mobile stations, respectively, and further wherein said first and second feature codes are transmitted when a monitored measure of received signal strength at said mobile stations falls below, and rises above threshold level, respectively (Paragraph [0030,0038]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2,3,7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) in view of Lundborg (U.S. 6,782,262).

Regarding **claim 2**, Lencevicius discloses all the particulars of the claim, except wherein said step of monitoring a measure of received signal strength comprises the step of monitoring the ratio E_c / I_o , wherein E_c is a measure of carrier strength and I_o is

a measure of interference. However, Lundborg teaches in an analogous art, step of monitoring a measure of received signal strength comprises the step of monitoring the ratio E_c / I_o , wherein E_c is a measure of carrier strength and I_o is a measure of interference (Col. 9, lines 8-10). Quality of a digital channel is measured by bit error rate (BER) on the up or down link and is related to the ratio E_c / I_o . Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use ratio E_c / I_o for setting the signal strength threshold.

Regarding **claim 3**, Lencevicius discloses all the particulars of the claim, except wherein said step of monitoring a measure of received signal strength comprises the step of monitoring a signal to noise ratio of a received signal from a base transceiver station in a cellular telephone network. However, Lundborg teaches in an analogous art, step of monitoring a measure of received signal strength comprises the step of monitoring a signal to noise ratio of a received signal from a base transceiver station in a cellular telephone network (Col. 9, lines 20-22). Speech quality for an analog channel is measured by the signal to noise ratio on the up or down link. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use signal to noise ratio of a received signal from a base transceiver station in a cellular telephone network as a measure of received signal strength.

Regarding **claim 7**, Lencevicius discloses all the particulars of the claim, except wherein the threshold level is determined by an element in said wireless network and transmitted to said mobile station. However, Lundborg teaches in an analogous art,

the method of call forwarding for a mobile station, wherein the threshold level is determined by an element in said wireless network and transmitted to said mobile station (Col. 9, lines 1-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method, wherein the threshold level is determined by an element in said wireless network and transmitted to said mobile station. The variation of the threshold based on the mobile station has to be taken into account in order to improve the efficiency of communication.

Regarding **claim 10**, Lencevicius discloses all the particulars of the claim, except wherein the monitored measure of received signal strength remains below the threshold level for predetermined period of time. However, Lundborg teaches in an analogous art, discloses the method, the monitored measure of received signal strength remains below the threshold level for predetermined period of time (items 64 and 66 in Figure 6; 51-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method; wherein the first feature code is transmitted if the monitored measure of received signal strength remains below the threshold level for predetermined period of time. This waiting period is required in order to avoid performing call activating/deactivating too often.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) in view of Akhteruzzaman et al. (hereinafter Akhteruzzaman).

Regarding **claim 5**, Lencevicius teaches all the particulars of the claim except, wherein the previously programmed directory number is changeable by a user of said

mobile station by interactively entering said directory number. However, Akhteruzzaman teaches the method wherein the previously programmed directory number is changeable by a user of said mobile station by interactively entering said directory number (Col. 6, lines 28-31; Col. 7, lines 10-17; item 114 in Figure 2). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use the method wherein the previously programmed directory number is changeable by a user of said mobile station by interactively entering said directory number. This modification gives user additional flexibility to choose the directory number with user interface of the mobile communication device (Lencevicius, Paragraph [0023])

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) in view of Lo (U.S. RE37, 301E).

Regarding **claim 6**, Lencevicius discloses all the particulars of the claim, except wherein said feature code is sent to said wireless network over an access channel. However, Lo teaches in an analogous art, wherein said feature code is sent to said wireless network over an access channel (Col. 2, lines (66-67)). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of activating call forwarding for a mobile station wherein said feature code is sent to said wireless network over an access channel. This method of sending the feature code through access channel would improve the transmission efficiency and reduce the access delay.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) in view of Jensen (U.S. 2002/0022480).

Regarding **claim 8**, Lencevicius discloses all the particulars of the claim, except wherein the threshold level varies depending upon the type of mobile station. However, Jensen teaches in an analogous art, the method of call forwarding for a mobile station, wherein the threshold level varies depending upon the type of mobile station (Paragraph [0015], lines (6-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method, wherein the threshold level varies depending upon the type of mobile station. By including all the factors that are affecting the threshold one can improve the efficiency and performance of cellular system.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) in view of Chawla et al. (hereinafter Chawla) (U.S. 6,496,700).

Regarding **claim 9**, Lencevicius discloses all the particulars of the claim except wherein the threshold level lies in the range of -85dB to -90 dB. However, Chawla teaches in an analogous art, wherein the threshold level lies in the range of -85dB to -90 dB (col. 19, lines 37-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the threshold level lies in the range of -85dB to -90 dB.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) in view of Haub (US 2004/0152429).

Regarding claim 12, Lencevicius discloses all the particulars of the claim except wherein said wireless telephone operates in a CDMA network and wherein said circuitry monitors the ratio E_c / I_o , wherein E_c is a measure of carrier strength and I_o is a measure of interference. However, Haub teaches in an analogous art, discloses the wireless telephone, wherein said wireless telephone operates in a CDMA network and wherein said circuitry monitors the ratio E_c / I_o , wherein E_c is a measure of carrier strength and I_o is a measure of interference (Paragraph [0022], lines (11-15)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the wireless telephone, wherein said wireless telephone operates in a CDMA network and wherein said circuitry monitors the ratio E_c / I_o , wherein E_c is a measure of carrier strength and I_o is a measure of interference.

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) in view of Kisse et al. (hereinafter Kisse) (US 6567665).

Regarding claim 14, Lencevicius discloses all the particulars of the claim, except wherein the service control node sets the threshold level. However, Kisse teaches in an analogous art, wherein the service control node sets the threshold level (Col. 13, lines 10-13). Therefore, it would be obvious to one of ordinary skill in the art at the time

Art Unit: 2617

of invention to have the service control node sets the threshold level. Since the service control node is forwarding the calls, it is convenient to have the service control node sets the threshold level.

12. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) in view of Balachandran (US 5594943).

Regarding **claim 15**, Lencevicius Byrne discloses all the particulars of the claim, except wherein the threshold level is determined by reference to a level in which calls are dropped. However, Balachandran teaches in an analogous art wherein the threshold level is determined by reference to a level in which calls are dropped (Col. 2, lines 24-25). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use the threshold level, wherein the threshold level is determined by reference to a level in which calls are dropped. This threshold level represent performance threshold, which can be used to determine whether the air link can reliably transmit information.

13. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) in view of Hilliard et al. (US 6876949).

Regarding **claim 16**, Lencevicius teaches all the particulars of the claim except wherein the threshold level is offset from a dropped call level by a fixed amount. However, Hilliard teaches in an analogous art ("Error analysis" in Statistics, Also providing an offset using standard deviation is well known in the art) teaches a method

wherein the threshold level is offset by a fixed amount (Col. 15, lines 34-38). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use the threshold level, wherein the threshold level is offset from a dropped call level by a fixed amount. This modification provides a compromise between signal quality and bad call forwarding decision.

14. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) in view of Jensen (U.S. 2002/0022480).

Regarding **claim 17**, Lencevicius discloses all the particulars of the claim, except wherein the threshold level varies depending upon the type of mobile station. However, Jensen teaches in an analogous art, the method of call forwarding for a mobile station, wherein the threshold level varies depending upon the type of mobile station (Paragraph [0015], lines (6-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method, wherein the threshold level varies depending upon the type of mobile station. By including all the factors that are affecting the threshold one can improve the efficiency and performance of cellular system.

15. Claim 1, 4, 5, 11 and 13 are rejected under 35 U.S.C. 103(a) as being anticipated by Akhteruzzaman et al. (hereinafter Akhteruzzaman) in view of Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183).

Regarding **claim 1**, Akhteruzzaman discloses a method of activating call forwarding for a mobile station (Abstract, lines 20-23), comprising the steps of: monitoring a measure of received signal strength at said mobile station; automatically

Art Unit: 2617

transmitting a first feature code from said mobile station to a wireless network when said monitored measure of received signal falls below a threshold level (item 120 in Figure 4), said first feature code activating call forwarding for said mobile station such that incoming calls are directed to a previously programmed directory number (col. 6, lines 41-46; item 126 in Figure 4); continuing to monitor signal strength at said mobile station during a period when call forwarding is activated (It is inherent since disabling call forwarding requires monitoring of signal strength during call forwarding; Col. 8, lines 46-58); automatically transmitting a second feature code from said mobile station to a wireless network, said second feature code deactivating said call forwarding (col. 1, lines 65-67, col. 2, lines 1-2). Akhteruzzaman did not teach specifically when said signal strength rises above said threshold level, said second feature code deactivating said call forwarding. However, Lencevicius teaches in an analogous art the method wherein said signal strength rises above said threshold level, said second feature code deactivating said call forwarding. ("**call forwarding functionality on the network, which is activated or deactivated via USSD**"; Paragraph [0030]; "transmission is deferred until the signal power is above the predetermined level", Paragraph [0038]). This modification provides power management for mobile devices when there is a single directory number to call forward.

Lastly, it is well known in the art that mobile phone systems forward a call to voicemail if/when a phone is turned "off" or if the signal strength is low (e.g. Inside a building or a tunnel) and forwarding is deactivated when the signal

strength is high (e.g. the user move out of the tunnel or building) (Lencevicius, Paragraph [0037]).

Regarding **claim 4**, Akhteruzzaman discloses the method of claim 1, wherein said mobile station comprises a cellular telephone (item 70 in Figure 1).

Regarding **claim 5**, Akhteruzzaman discloses the method of claim 1, wherein the previously programmed directory number is changeable by a user of said mobile station by interactively entering said directory number (Col. 6, lines 28-31; Col. 7, lines 10-17; item 114 in Figure 2).

Claim 11 is rejected for the same reason as set forth in claim 1. Please refer to (Col. 6, lines 46-50) for further clarification.

Claim 13 is rejected for the same reason as set forth in claim 1.

16. Claims 2,3,7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akhteruzzaman in view of Lencevicius et al. (hereinafter Lecevicus) (US 2004/0204183) and further in view of Lundborg (U.S. 6,782,262).

Regarding **claim 2**, Akhteruzzaman in view of Lencevicius discloses all the particulars of the claim, except wherein said step of monitoring a measure of received signal strength comprises the step of monitoring the ratio E_c / I_o , wherein E_c is a measure of carrier strength and I_o is a measure of interference. However, Lundborg teaches in an analogous art, step of monitoring a measure of received signal strength comprises the step of monitoring the ratio E_c / I_o , wherein E_c is a measure of carrier

strength and I_o is a measure of interference (Col. 9, lines 8-10). Quality of a digital channel is measured by bit error rate (BER) on the up or down link and is related to the ratio E_c/I_o . Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use ratio E_c/I_o for setting the signal strength threshold.

Regarding **claim 3**, Akhteruzzaman in view of Salcic and further in view of Byrne discloses all the particulars of the claim, except wherein said step of monitoring a measure of received signal strength comprises the step of monitoring a signal to noise ratio of a received signal from a base transceiver station in a cellular telephone network. However, Lundborg teaches in an analogous art, step of monitoring a measure of received signal strength comprises the step of monitoring a signal to noise ratio of a received signal from a base transceiver station in a cellular telephone network (Col. 9, lines 20-22). Speech quality for an analog channel is measured by the signal to noise ratio on the up or down link. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use signal to noise ratio of a received signal from a base transceiver station in a cellular telephone network as a measure of received signal strength.

Regarding **claim 7**, Akhteruzzaman in view of Lencevicius discloses all the particulars of the claim, except wherein the threshold level is determined by an element in said wireless network and transmitted to said mobile station. However, Lundborg teaches in an analogous art, the method of call forwarding for a mobile station, wherein the threshold level is determined by an element in said wireless network and transmitted to said mobile station (Col. 9, lines 1-7). Therefore, it would have been obvious to one of

ordinary skill in the art at the time of the invention to use the method, wherein the threshold level is determined by an element in said wireless network and transmitted to said mobile station. The variation of the threshold based on the mobile station has to be taken into account in order to improve the efficiency of communication.

Regarding **claim 10**, Akhteruzzaman in view of Lencevicius discloses all the particulars of the claim, except wherein the first feature code is transmitted if the monitored measure of received signal strength remains below the threshold level for predetermined period of time. However, Lundborg teaches in an analogous art, discloses the method, wherein the first feature code is transmitted if the monitored measure of received signal strength remains below the threshold level for predetermined period of time (items 64 and 66 in Figure 6; 51-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method; wherein the first feature code is transmitted if the monitored measure of received signal strength remains below the threshold level for predetermined period of time. This waiting period is required in order to avoid performing call forward too often.

17. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akhteruzzaman in view of Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) and further in view of Lo (U.S. RE37, 301E).

Regarding **claim 6**, Akhteruzzaman in view of Lencevicius discloses all the particulars of the claim, except wherein said feature code is sent to said wireless network over an access channel. However, Lo teaches in an analogous art, wherein said feature code is sent to said wireless network over an access channel (Col. 2, lines

(66-67)). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of activating call forwarding for a mobile station wherein said feature code is sent to said wireless network over an access channel. This method of sending the feature code through access channel would improve the transmission efficiency and reduce the access delay.

18. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akhteruzzaman in view of Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) and further in view of Jensen (U.S. 2002/0022480).

Regarding claim 8, Akhteruzzaman in view of Lencevicius discloses all the particulars of the claim, except wherein the threshold level varies depending upon the type of mobile station. However, Jensen teaches in an analogous art, the method of call forwarding for a mobile station, wherein the threshold level varies depending upon the type of mobile station (Paragraph [0015], lines (6-13)). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method, wherein the threshold level varies depending upon the type of mobile station. By including all the factors that are affecting the threshold one can improve the efficiency and performance of cellular system.

19. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akhteruzzaman et al. (hereinafter Akhteruzzaman) (US 6584316) in view of Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) and further in view of Chawla et al. (hereinafter Chawla) (U.S. 6,496,700).

Regarding claim 9, Akhteruzzaman in view of Lencevicius discloses all the particulars of the claim except wherein the threshold level lies in the range of -85dB to -90 dB. However, Chawla teaches in an analogous art, wherein the threshold level lies in the range of -85dB to -90 dB (col. 19, lines 37-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the threshold level lies in the range of -85dB to -90 dB.

20. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akhteruzzaman et al. (hereinafter Akhteruzzaman) (US 6584316) in view of Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) and further in view of Haub (US 2004/0152429).

Regarding claim 12, Akhteruzzaman in view of Salcic and further in view of Byrne discloses all the particulars of the claim except wherein said wireless telephone operates in a CDMA network and wherein said circuitry monitors the ratio E_c / I_o , wherein E_c is a measure of carrier strength and I_o is a measure of interference. However, Haub teaches in an analogous art, discloses the wireless telephone, wherein said wireless telephone operates in a CDMA network and wherein said circuitry monitors the ratio E_c / I_o , wherein E_c is a measure of carrier strength and I_o is a measure of interference (Paragraph [0022], lines (11-15)). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the wireless telephone, wherein said wireless telephone operates in a CDMA network and

wherein said circuitry monitors the ratio E_c / I_o , wherein E_c is a measure of carrier strength and I_o is a measure of interference.

21. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akhteruzzaman et al. (hereinafter Akhteruzzaman) (US 6584316) in view of Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) and further in view of Kisse et al. (hereinafter Kisse) (US 6567665).

Regarding claim 14, Akhteruzzaman in view of Lencevicius discloses all the particulars of the claim, except wherein the service control node sets the threshold level. However, Kisse teaches in an analogous art, wherein the service control node sets the threshold level (Col. 13, lines 10-13). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to have the service control node sets the threshold level. Since the service control node is forwarding the calls, it is convenient to have the service control node sets the threshold level.

22. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akhteruzzaman et al. (hereinafter Akhteruzzaman) (US 6584316) in view of Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) and further in view of Balachandran (US 5594943).

Regarding claim 15, Akhteruzzaman in view of Lencevicius discloses all the particulars of the claim, except wherein the threshold level is determined by reference to a level in which calls are dropped. However, Balachandran teaches in an analogous art wherein the threshold level is determined by reference to a level in which calls are dropped (Col. 2, lines 24-25). Therefore, it would be obvious to one of ordinary skill in

Art Unit: 2617

the art at the time of invention to use the threshold level, wherein the threshold level is determined by reference to a level in which calls are dropped. This threshold level represent performance threshold, which can be used to determine whether the air link can reliably transmit information.

23. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akhteruzzaman et al. (hereinafter Akhteruzzaman) (US 6584316) in view of Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) and further in view of Hilliard et al. (US 6876949).

Regarding **claim 16**, Akhteruzzaman in view of Lencevicius teaches all the particulars of the claim except wherein the threshold level is offset from a dropped call level by a fixed amount. However, Hilliard teaches in an analogous art ("Error analysis" in Statistics, Also providing an offset using standard deviation is well known in the art) teaches a method wherein the threshold level is offset by a fixed amount (Col. 15, lines 34-38). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use the threshold level, wherein the threshold level is offset from a dropped call level by a fixed amount. This modification provides a compromise between signal quality and bad call forwarding decision.

24. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akhteruzzaman et al. (hereinafter Akhteruzzaman) (US 6584316) in view of Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) and further in view of Jensen (U.S. 2002/0022480).

Regarding claim 17, Akhteruzzaman in view of Lencevicius discloses all the particulars of the claim, except wherein the threshold level varies depending upon the type of mobile station. However, Jensen teaches in an analogous art, the method of call forwarding for a mobile station, wherein the threshold level varies depending upon the type of mobile station (Paragraph [0015], lines (6-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method, wherein the threshold level varies depending upon the type of mobile station. By including all the factors that are affecting the threshold one can improve the efficiency and performance of cellular system.

Conclusion

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Muthuswamy G. Manoharan whose telephone number is 571-272-5515. The examiner can normally be reached on 6:30AM-3:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eng George can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



M.G. Manoharan

12/21/06

JEAN GELIN
PRIMARY EXAMINER

